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CASES ILLUSTRATIVE OF THE DISEASES OF WOMEN.

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I AM frequently asked if antero-posterior displacements of the uterus, of marked degree, and of several months or years standing, can be permanently relieved, so that the patient may safely go without any external or internal support. I have now seen many cases illustrative of this result, like the following.

CASE VII.—*Anteversion following Miscarriage; Cure.*—Mrs. S., English by birth, the wife of an officer in the Confederate army, consulted me for the first time on April 14th, 1863. She had been married three years, and had enjoyed excellent health until her miscarriage in the preceding August, at Havana, during an attack of yellow fever; it being her first pregnancy and advanced five months. From this time she dated her present disease. Her menstruation has since been normal in quantity and quality, length of interval and time of continuance, but attended with considerable suffering during the first of the discharge. Constant pain at sacrum, right groin, and in region of that hip and back of thigh. Frequent necessity of passing the water, but no urethral irritation. No leucorrhœa. Bowels moved daily without medicine or enemata. Appetite and nights good.

This patient had consulted an eminent surgeon, to whom she had not mentioned the fact of her miscarriage or of her incontinence of urine. In the absence of all other direct evidence of any uterine lesion, this gentleman had seen no reason to propose a vaginal examination, and had treated the case as one of incipient hip disease, by blisters, iodine, &c. &c., without producing any relief.

Upon examination, I found the cervix hypertrophied and indurated, the uterus decidedly anteverted, but without flexion, the os consequently thrown back upon the posterior vaginal wall, its surface

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roughened to the touch, its orifice nearly imperforate, a small sound entering with great difficulty. The cavity of the uterus was in length nearly an inch over the standard, as is often the case after the occurrence of labor or an abortion.

The uterus was replaced, one of Hodge's closed levers introduced, of large aperture to receive the hypertrophied cervix; no other local application made. Citrate of iron and quinine to be taken daily.

April 18th.—Less pain. The instrument has not been displaced. The uterine tissue evidently softer and of more healthy consistence, the uterus showing much less disposition to displacement; on removal of the pessary, one of Meigs's watch-spring rings was substituted. Application of the hammer cautery to the sciatic region.

May 5th.—Improving; blister from nitrate of silver over right groin.

9th.—The patient suffering from an attack of bilious diarrhœa, the ring was removed, so as to avoid its pressure upon the rectum. It was replaced again on the 18th, removed once more on the 11th of June, replaced for the first week of July, and on the 8th taken away finally, the patient being now well. The lady called at my office several times subsequently, reporting that there had been not the slightest return of any of the symptoms; the uterus remaining, upon examination, perfectly in place and in a healthy condition.

This case is illustrative of certain important points.

1. The necessity of closely cross-examining female patients, as to past history and symptoms.

2. The propriety and advantage of physical examination, on suspicion merely of local disease—the proper rule being, with married women, never to prescribe without such an examination when there is any reason whatever to suspect the existence of pelvic disease. With unmarried women, on the other hand, vaginal examinations ought not to be made, unless directly indicated, until general medication has been resorted to without effect.

3. The symptomatology of displacements, which, it is my firm conviction, are of very much more common occurrence than is generally supposed, even by experts, if they are accustomed in diagnosis to depend mainly upon the speculum. This remark applies more especially to flexions, where the cervix is frequently in its natural position and enters readily the opening of the tube, while in versions its engagement is usually effected with more difficulty. I am satisfied, also, that the occurrence of displacements forward is proportionately more frequent than has been allowed by writers, and have upon my note-books very many cases in proof of this supposition. The statement has been made by various writers that displacement may exist to an extreme degree without in any way affecting the health of a patient. In reply, it is merely necessary to state that cases are very rare where direct and very evident disturbance is not to be de-

tected as its result. If such is not yet present, it by no means follows that it will not sooner or later become manifest, and in its absence there is almost always to be found some reflex symptom, no matter how obscure, of a neuralgic character or otherwise, of sufficient influence to affect the general health, and therefore of sufficient importance to be cured by removing its cause.

4. The causation of displacements, and

5. The rational treatment of displacements. Upon the theory by which we account for the origin of aberrance in the uterine axis as compared with those of the pelvis, depends in great measure the character of the treatment resorted to. If, with Henry Bennet, we are to consider that whatever sign of the presence of metritic or cervical hypertrophy or engorgement may be discovered, depends primarily upon idiopathic inflammation of the os and cervix, which of itself is able secondarily to cause displacement, or even flexion forwards or backwards, or to either side, the treatment must of course be mainly, as it is often solely, directed to the os and cervix uteri, either by the application of leeches, by scarification, or by the milder or stronger caustics; a method of practice that, as is well known, is of frequent resort by many skilful practitioners in this neighborhood. If, on the other hand, as can be proved to occur not unfrequently, the displacement primarily begins with the deviation itself, how different should be the course pursued. It is by removing the cause that, as in the case now reported, we shall most certainly and effectually overcome the effect. There can be little doubt that in slight efforts of the body generally, or of the muscles of the abdominal parietes, or in distension of the rectum, or the passage of scybalous masses, in the tenesmus arising from hæmorrhoids, in the extremes of fulness and emptiness to which the female bladder is, by the inconveniences of social life, confessedly so prone, and in the shock of falls, of horseback rides, or of sexual intercourse, occurring, as these may all do, at times of congestion and increased weight of the uterine fundus, as for instance, near or at the catamenial period, and after an accouchement or a miscarriage, we have a much more rational explanation of the causation and character of displacements.

It can hardly be urged, with reference to the case now reported, that the displacement existed previously to the abortion, or that it was the predisposing cause of the accident, all symptoms of disease having presented themselves after its occurrence.

In treatment, it will be found that even in extreme cases, unless adhesions have taken place between the uterus and any neighboring organ, though this may at times be overcome, we can usually, by replacing the womb and keeping it in position, cure the diseased condition of the os and cervix without any direct application thereto. In a few exceptional cases, where, for instance, the lesion has been of very long standing, or where an impetuous husband is constantly endeavoring to assist in the treatment, it may be of advantage to

hasten a healthy condition by such applications as potassa fusa or the actual cautery, the latter of which I myself prefer.

There are many cases of displacement, especially of flexion, in which it is asserted that the sound cannot be made to enter, and where, indeed, there will be found some difficulty, even by practised hands. Many cases of this character, previously diagnosticated as instances of tumors impinging on the rectum or bladder, have been sent to me for treatment, some of which I may report at a future time. The sound may here often be made to enter the supposed tumor by firm pressure upon the latter by a finger in the vagina, thereby lifting the mass and straightening the uterine axis, a mode of procedure that seems hardly to have been mentioned by obstetrical writers. The obstruction to the passage of the sound here pointed out is to be distinguished from another of not infrequent occurrence in displacements, where the point of the instrument becomes caught in one of the little lacunæ of the cervical canal, just as in instances of stricture of the male urethra. In these cases, the indication is of course to change the curve of the instrument, or to use one with a larger or smaller point as may be required. And this cause of obstruction is again not to be confounded with others that may exist, as the presence of a cervical or other polypus, of spasmodic stricture at the upper extremity of the cervix, or pressure by an intramural enlargement.

Replacement having been effected, there is much choice as to the means of retaining the uterus in position. To the operative procedure by slitting up the cervix, anteriorly or posteriorly as the case may be, now so frequently and skilfully performed by Dr. Emmet, of New York, the accomplished successor of Dr. Sims at the Woman's Hospital, I am as yet hardly prepared to yield my full assent; nor, on the other hand, can I endorse the views proposed by Dr. A. K. Gardner, at the last meeting of the American Medical Association, in accordance with which the use of pessaries, even for temporary support, would be entirely discarded.

In the employment of pessaries, not blindly or indiscriminately and for permanent use, but temporarily and with reference to the exact lesion, as is done with splints for a broken limb, I have much confidence; but the instrument, of whatever form, should suit the exact requirements of the case and should perfectly fit the patient. Upon these points, to the importance of which I have repeatedly publicly alluded, there is still a general inattention or indifference. My own preference is generally for the various forms of Hodge's lever, to which I freely confess I was formerly opposed. They accomplish far more than could theoretically have been expected of them; the material of which they are made is unirritating and slightly elastic, and, when fitting, their presence is not noticed by the patient. An erroneous impression prevails that when the blunt points of the open form of the instrument have, as is often the case, formed for themselves

little fossæ in which they rest, ulceration must necessarily have occurred. Nothing, however, can be farther from the truth, if the instrument is well fitting and yet easily moved by the finger; and though undoubtedly there may be instances of this lesion from the use of instruments made of too narrow and attenuated rods, with which the market is now flooded, yet with points of a proper thickness the accident referred to can hardly occur. With their aid many cases may be cured which would otherwise be hopeless. In some obstinate displacements of comparatively rare occurrence, or where, adhesions existing, it is thought advisable to break them down, it is necessary to obtain a fixed and external leverage; for these cases I still prefer my own modification of Simpson's double instrument, as originally proposed in this JOURNAL, eight years ago.* There is a double instrument now made of hard rubber by Tiemann, of New York, which also replaces the womb by a concealed lever, but the mechanism is somewhat complex, and in practice I have found it get out of order. At times I have succeeded excellently well with the intra-uterine stem, attached to double or triple vaginal wings, expanding after insertion.

In some instances^d of displacement there exists primarily, or secondarily, a local hypertrophy or congestion of the uterine wall, falling short of distinct or permanent tumor. Here the cure may often be hastened by introducing, in conjunction with support by a lever, the bead caustic within the cavity of the uterus, not as an application to the cervical canal, but to the localized disease of the fundus. The cure of decided displacement by applications merely to the os and cervix, is as little likely to be accomplished as by endeavoring to attain the same end through exciting adhesive inflammation between the external surface of the cervix and the vaginal wall. In several instances that have been sent to me, I have now had to perform dissections to counteract the evil results from this latter operation, which, in view of the frequency of these results, I cannot too strongly condemn.

All forms of abdominal bandage, for the treatment of displacements of the uterus, save in only one or two exceptional cases, I am inclined to disapprove. The exceptions to which I refer are those instances of anteversion where pregnancy exists, or where the uterine cavity is of abnormal length, as in sub-involution, or where the displacement is occasioned by complication with an abdominal tumor. In anteversion where the uterus is wholly within the pelvis, in retroversion, or in any degree whatever of procidentia, complicated or not with vaginal cystocele or rectocele, an abdominal bandage almost necessarily aggravates the displacement. In the few cases in which I have allowed that its use may be of advantage, it must be carefully fitted to the patient's form, by "gathering," &c., so as to lift what

* This JOURNAL, November, 1856, page 288, with wood-cut.

it contains upward, rather than to press backward and downward; as in either of these cases it forces down the intestines into the pelvic cavity.

There are many more suggestions that might be made regarding the treatment of displacements. In what I have said I have answered some of the questions most frequently put to me.

CASE VIII.—*Anteversion extreme, and probably of long standing; Cure.*—Mrs. G., of Ellsworth, Me., was sent to me on Oct. 5th, 1863, by Dr. Buckminster Brown, with the message that she had been treated by several physicians without relief, for so-called "spinal irritation," but that he suspected the case to be one of uterine origin. The lady was still menstruating, though forty-nine years of age, but the catamenia had become irregular, and lately profuse. She had but once been pregnant, twenty-four years ago. The chief complaint was of sacral pain. Upon examination, the uterus was found thrown forward, the cervix enlarged and jammed against the sacrum so firmly that it was with great difficulty I could get my finger around it and bring it down. Once, however, replaced, it was retained *in situ* with ease, with the effect of greatly relieving the pain. The os was roughened and nodulated. A double lever was introduced, and no other application made. The patient was then allowed to visit New York. Upon her return, the womb was still found in place. On the 22d Oct., the charcoal cautery was applied to the cervix, and, as she desired to return home as soon as possible, Meigs's ring was introduced, to keep the vaginal walls from exerting an irritating action upon the os until that should have recovered its healthy condition. There was no disposition towards a recurrence of the displacement, and I have reason to believe that the relief has been permanent.

It will have been noticed that in this case, as in No. VII. preceding, I replaced the lever pessary as soon as the uterus was able to retain itself in its usual position, by the watch-spring ring. This is not done for the purpose of preventing a subsequent displacement, for the ring is almost wholly inefficient in guarding against this, as it is in relieving it when it has occurred. Its employment is to prevent contact of the vaginal walls with the secondarily sore and irritable os, just as the hoop is used to keep bed-clothes from an injured limb. By the simple use of the ring, a perfect restoration of an inflamed cervix, or an abraded os, dependent or not upon a displacement, to a condition of health, may be very frequently effected without the necessity of employing the speculum or any direct local application whatever.*

* In view of the fact, tolerably well known by physicians in this vicinity, that I have uniformly protested against the unnecessarily frequent use of the speculum and nitrate of silver, so generally considered indispensable by those professing an acquaintance with uterine disease, one may well be amused at the especially ill-fitting epithet applied to me in the last week's JOURNAL, by the gentleman who has undertaken to criticize my proposal of Advisory Medical Boards at Insane Hospitals, for the cases of female patients. The term "knight of the speculum" seems hardly applicable in this instance, except on the principle of *lucus a non lucendo*, very much as seems to have been the case with the part taken by my doughty op-

It is in attention to these details, comparatively trivial and unimportant as they may seem to some, that one of the great secrets of success in gynæcal practice will be found to lie, for it is of common and unexceptional cases that the great bulk of those presenting themselves consist.

In the preceding cases, the displacement, as so often does really happen, might have been mistaken for a tumor; the two following will instance the possibility of an error directly the reverse.

CASE IX.—*Anteversion from Interstitial Fibrous Tumor.*—Jane C. consulted me on April 15th, 1863, being sent to me by Dr. Hasket Derby. This patient had been under the charge of oculists for many years, her disease utterly baffling all explanation and treatment. Dr. Derby, wisely surmising that there might be present some other and primary derangement, ascertained the existence of chronic leucorrhœa, and from this attributed to an uterine cause the reflex lesion.

She stated to me that the leucorrhœa was profuse and of seven years' standing, which was also the period that the ocular disease had existed, that the menses were normal in quality, but lasted seven days, that the bowels were regular and her general health tolerably good, with the exception of lassitude and the usual symptoms of anæmia. The patient was unmarried, and alleged that there had never been local disturbance induced either by intercourse or masturbation, though she had suffered severely from hæmorrhoids, the irritation of which I have often found causative of the habit just alluded to.* Astrigent pessaries of ointment were advised to the vagina.

April 16th.—The leucorrhœa still existing, I had no hesitation in making a vaginal examination, inasmuch as the patient had been thoroughly treated constitutionally previous to her coming under my charge. I found present a well-marked hymen, despite the relaxed condition of the vaginal walls, consequent upon and partly occasioning the leucorrhœal flux. A pendulous and flabby polypus, the size of an olive, emerged from within the os uteri. This was removed by torsion, and its base touched with nitrate of silver. The hymen was so persistent that it was difficult to make firm pressure anteriorly to the cervix, but there appeared to be little or no displacement of the uterine body. Upon the 24th of April I applied iodine

ponent, whose zeal in this controversy and the arguments that he has advanced alike seem based upon an utter want of knowledge as to the real principles which should govern the treatment of insane women.

* There can be no doubt that in many instances the habit of masturbation in women is occasioned and kept up by reflex irritation from disorders of an adjacent organ, as from hæmorrhoids, ascariæ, dysmenorrhœa, &c. &c. This causation I have frequently observed in my studies of insane women, and I am convinced that the habit among the sane, so far from being properly considered a vice merely, is very often, in its commencement at least, but a very natural effort at relieving the suffering from pruritus. That it may be often pursued simply for the gratification of a lustful desire, I do not of course deny; but even in many of these cases it is to be treated as essentially a physical disease, local treatment being found infinitely more efficacious than the camisole or any amount of moral suasion.

to the os, and on the 8th of May a solution of nitrate of silver. On the 30th of May the leucorrhœa was almost gone, the os and cervix were in a very healthy condition, but I noticed for the first time that the womb was tending abnormally forward; for this I introduced the smallest sized closed lever pessary. She then went to visit friends at Leominster, returning to me on the 25th of June. The anteversion was more marked than before, and I substituted for the closed instrument an open lever, or horse-shoe. At this time there was no tumor to be discovered by the most careful examination, and the identity of the mass touched by the finger, with the uterine fundus, was proved by its entrance and free movement by the uterine sound. A week later, on July 1st, she entered the Woman's Hospital by my advice.

She here passed under the care of Dr. Zakrzewska, who called my attention not long after to the development of an apparently fibroid and somewhat lateral outgrowth from the anterior uterine wall. This tumor, at first distinguishable with the greatest difficulty, has increased until it is now of the size of a hen's egg, apparently tending to become pediculated externally, as its motion coincidently with the uterus is not so distinct as it was six months ago. As it has become developed, the general health of the patient has improved, her eyes give her only occasional trouble, and then but slightly in comparison with what formerly existed. About a year since it was found that another polypus had emerged from the cervix, in character and size like that which I had previously removed, and this was easily extirpated. She is now able to do light nursery work, and from time to time reports herself for examination. On the 26th Nov. ult., the hæmorrhoids to which I have already alluded still giving her some little trouble, they were removed by the wire *ecraseur*.

In the above case it is hardly to be supposed that the cure of the cervical disease, by the removal of the polypus first formed, had anything to do with the establishment or rather development of the tumor of the fundus, more especially as a recurrence of the original affection seemed to produce no appreciable effect upon the extent of the displacement or the progress of the tumor. It is therefore evident that the anteversion was not occasioned in direct sequence by the cervical disease, and in this connection the case is interesting in its comparison with those previously related.

CASE X.—Tumor of doubtful Character anterior to the Uterus; Recovery.—Mrs. H., of New Bedford, was sent to me on May 4th last, by Dr. Abbe, of that city, reporting that though married several years, she had but once been pregnant, and then had accidentally miscarried at eight months. Since a year after this occurrence, she had been unable to retain her water, which was turbid and came from her in sudden gushes, deluging her clothes and not allowing a moment for withdrawal to a more convenient place for such relief.

She was emaciated, and her general health had evidently been affected by her disease. Upon examination, the uterus was found much enlarged, this being, however, chiefly confined to its walls, as shown by the sound, and the cervix and body of the organ were tender to the touch; a distinct tumor, the size of the fist, rounded, its outline well defined, being situated anteriorly and a little to the right. This mass was but slightly movable either by the sound within the uterus or by the catheter within the bladder, and was apparently unconnected with either of those organs. Through the abdominal wall it could not so easily be distinguished as by the vagina, nor could it so readily be moved. Buchu was ordered, and ointment pessaries of belladonna.

June 2d.—A slight improvement was noticed. A pill of cubebs was added to the medicine already ordered, and the cautery of prepared charcoal applied to the cervix. The tumor, as before, was firm and unyielding in character, without trace of fluctuation. The urine, under the microscope, was profusely charged with pus-cells.

Aug. 31st.—General health improving. For the medicines hitherto taken, there was substituted an infusion of the common red clover.

Sept. 3d.—Dr. Storer, Sen., saw the patient with me in consultation, and agreed with me that the diagnosis was a doubtful one, the tumor still remaining as at first noted. Daily opiate injections were about this time ordered for the bladder. On Sept. 22d, the tumor appeared to be a very little smaller than previously, but still hard and unyielding. The urine much clearer, and retained with comparative ease. On Oct. 18th the tumor was detected with difficulty, and on the 26th it had entirely disappeared. From that time there has been no tendency to its return, the urine is healthy and perfectly under control, the patient has gained many pounds in flesh, is very much stronger, and considers herself as well.

Now it is difficult to offer a plausible explanation as to the character of the tumor that was here present. Its resistance to the touch and the absence of all perceptible fluctuation would seem to remove it from the two alternatives that would most naturally have suggested themselves, viz., pelvic abscess or an ovarian cyst spontaneously discharging themselves through the bladder; suppositions which were rendered the more unlikely from the fact that there had never been any previous symptoms of either of these diseases, and that the purulence of the urine, which had long been present, became absent long before the tumor was materially diminished in size, and its discharge was at no time increased in quantity, either immediately or within a short time, by firm pressure upon the mass. There was at no time any tendency to spasmodic action of the recti or other abdominal muscles.

I was several times upon the point of using the exploring needle, either by the vagina or through the abdominal parietes, but was deter-

red by my wish to allay the irritability of the bladder previous to any operation. For this indication, I have found the infusion of trifolium of use in other cases, though, so far as I am aware, its employment for this special purpose is original with myself. As is well known, it has lately been used to some extent in Great Britain as an antispasmodic in whooping cough and asthma. The patient had just made her arrangements to enter the Woman's Hospital for an operation, when it was found that the tumor was commencing to disappear.

CASE XI.—*Polypus Uteri, probably Cancerous; necessity of subsequently removing its Base; Recovery.*—Mrs. L. S., of Townsend, aged 57, ceased to menstruate about ten years ago. Her father and two uncles are reported to have died of cancer, as also several great uncles and aunts on the paternal side.

In 1861–2 she had occasional uterine hæmorrhage of moderate character, attended with more or less pelvic pain and uneasiness. In the winter and spring of 1863 she had some treatment from her family physician. She thought she had prolapsus of the uterus, but was averse to examination, though she said that sometimes the womb came out between the labia. In June, 1863, Dr. Hitchcock, of Fitchburg, was called to see her, and made the first vaginal examination. He found a tumor pendulous in the vagina, about $2\frac{1}{2}$ inches long by $1\frac{1}{2}$ in thickness, nodulated, firm, and somewhat resembling an enlarged pancreatic gland. This had its origin from within the neck of the uterus, by a pretty broad and firm base. About an inch from the os the tumor had a neck, not more than one fourth its general diameter. As it was not sensitive nor very vascular, it was twisted off by forceps, very little hæmorrhage following. Not long afterwards, under the use of astringent injections, the protruding stump grew smooth and hard, and felt very much like an acorn trying to emerge from its involucre. During the autumn of 1863, there was a good deal of soreness in the pelvis and some uterine pain. For various reasons, not necessary to name, no other surgical means were adopted till March, 1864, when, after dilating the os for two weeks with graduated sponge tents, Dr. H. cut off the tumor with an oval-pointed knife, and immediately applied a saturated solution of zinc. Within two weeks he made three applications of the zinc, passing it at least two inches within the os, so as to reach the whole of the base of the tumor. Two months afterwards the whole wound had healed, and all purulent or morbid uterine and vaginal flow had ceased. From this time onward she improved in health, flesh and spirits, with scarcely any vestige of pain or discomfort. Within six months she was several times examined, the os and neck of the uterus being found perfectly normal and healthy.

On the 28th of Nov. ult., Mrs. S. died suddenly of apoplexy. Upon *post-mortem* examination, from three to four ounces of blood were found in the ventricles and base of the brain. The uterus and appendages have been very kindly sent to me by Dr. Hitchcock, and

are found in a perfectly healthy condition; the fundus may be a little too massive, but the os and neck present no trace of the former disease.*

It is comparatively seldom that a polypus, when thoroughly removed, unless of cancerous nature, shows any disposition to return—the instances where it seems to do so being generally in consequence of a similar growth in the neighborhood of the former, but not from its exact base; in this instance, however, from the known carefulness of the physician in charge, there can be no doubt of the fact.

Not having had an opportunity of examining the morbid mass at the time of its removal, I am unable to speak of its ultimate structure. From the previous family history of the patient, there was great reason to expect the development of malignant disease, and it is impossible to resist the impression that the tumor removed must have been of this character. It differed very materially from the fungous growth presenting itself in so-called cauliflower excrescence, where the disease, when removed, often returns with such frightful rapidity, and seems to have resembled more closely that very rare affection, the "recurrent polypus" of late writers, two or three cases of which I have now seen.

An examination of the specimen shows how completely the disease was removed, and the fact that it had not returned, during the eight months that preceded the patient's death, bears witness to the judgment shown by Dr. Hitchcock in performing the operation.

ORGANIC SUBSTANCES ARTIFICIALLY FORMED FROM ALBUMEN.

BY ALFRED H. SMEE, F.C.S.

IN a former paper which I had the honor to submit to the Royal Society, I showed that fibrin was formed by the passage of oxygen through albumen, provided a temperature of 98° F. was maintained. It was then observed that a slightly acid state of the albumen, or the absence of the alkaline salts, was found to be most favorable to its formation. I noticed, also, that ammonia had little effect in preventing the formation of fibrin, but after the lapse of a short time caused it to swell to such a degree that its microscopic characters could no longer be determined. It was observed that albumen acted on by gastric juice and passed through a membrane, still had the capacity to form fibrin in small amount.

Since the publication of that paper, I have conducted the following experiments in addition to those before mentioned. I submitted some of the fluid drawn off from a spina bifida to the action of oxygen and heat in the ordinary manner; after the lapse of a few hours

* The specimen was exhibited at the meeting of the Suffolk District Medical Society, and is now at the College Museum.

it yielded a substance which, under the microscope, presented all the characters of fibrin.

I tried to obtain fibrin from the urine in two cases in which it was highly albuminous. The urine was so loaded with albumen that it became almost solid by heat. I never have been able to transform this variety of albumen into fibrin, although the experiment was tried in many ways. I expect that on further investigation it will be found that the albumen found in urine (in most cases at least) is a substance not capable of further development.

The next experiment which I have to describe is to my mind one of the most beautiful exemplifications of the artificial formation of organic bodies under physical laws, producing results similar to those which we observe under certain circumstances in disease, the changes being produced by the action of a gas on a second body separated by a membrane, and having to traverse it before the chemical changes can be effected.

I passed a current of oxygen gas through a small portion of perfectly clean intestine, with the peritoneal coat attached. The intestine was placed in an albuminous fluid at a temperature of 98° F.; at the end of twenty-four hours I found the intestine completely invested with minute fibrinous outgrowths, similar to those seen on the intestines of persons who have died at the earliest stage of peritonitis.

It is worth noticing that although these fibrinous outgrowths take place when the peritoneum of the intestine remains, yet if this coat be stripped off they take place to a very limited extent. In many cases no outgrowths appear, even where the conditions of the experiments are equal.

It appears to me that the tendency of fibrin to be deposited on serous membranes, under favorable circumstances, may throw some light on the frequency with which we find the surfaces of serous membranes (for instance, the pericardium) so often coated with fibrinous outgrowths.

If hydrogen is passed through albumen to which a small quantity of potash has been added sufficient to ensure a slight excess of alkali, after the lapse of some time a dense, hard, horny mass will be observed, especially at the point where the hydrogen comes into contact with the albumen; in fact the growth of the substance often clogs the tube to such a degree that the hydrogen is prevented from further passing through it. It also has a tendency to grow upon platinized platinum when placed in the albuminous fluid whilst the current of hydrogen is passing. The time required is, as a rule, about four days; a temperature of 98° F. rather favors its formation, but is not absolutely necessary to its production.

The following are the chief chemical and physical reactions of the substances formed by hydrogen.

It is heavier than albumen, always sinking to the bottom of the vessels. It is hard, tough, semitransparent, homogeneous, and slight-

ly elastic. It swells up in cold water, and dissolves to a limited extent. The extent of its solubility is less the longer the time occupied for its formation. It is more soluble in hot water. Peroxide of hydrogen is not decomposed by it.

The watery solution is not coagulated by boiling; it is, however, precipitated by chlorine. Hydrochloric acid does not form a blue solution with excess of that reagent. Bichloride of mercury and bichloride of platinum, after the lapse of some time, precipitate it. Tannic acid, alcohol, acetate of lead, sulphate of the peroxide of iron, and alum, also precipitate it from its solution. It is turned yellow by nitric acid and heat. It likewise contains a small quantity of sulphur. Chondrin behaves in a similar manner, in its chemical and physical relations, to the substance thus artificially produced, and hence I propose to call it "artificial chondrin."

In carrying out these experiments, I found that a very nice method of obtaining a constant and equal amount of hydrogen gas was by collecting hydrogen formed at the negative pole of a one-cell battery, and passing the hydrogen thus formed directly into the albumen. The amount of hydrogen required was regulated by increasing or diminishing the size of the negative pole.

This form of apparatus will constantly remain a week or more in action without any appreciable alteration in the quantity of hydrogen evolved.

It may be well to describe the construction of the apparatus used. I first take a common precipitating glass, and place in it a few pieces of zinc, with a little mercury to amalgamate it. I then take a tube about one fourth of an inch in diameter, and bent in two places at a right angle; into one end I insert a platinum wire, and this end I place in the glass containing the zinc; the other end I place in the vessel containing the albuminous fluid. Dilute sulphuric acid is then added to the zinc. When contact takes place between the platinum wire and the zinc, a constant stream of hydrogen is given off from the platinum wire. The amount of hydrogen required can be regulated by making a larger or smaller surface of the platinum come in contact with the zinc. The amount of oxygen which is carried over is very limited, provided a tube is used of one fourth of an inch in diameter; but when a tube of one and one fourth inch is used, a quantity might pass sufficient to interfere with the experiment.

The amount of oxygen at times thus carried over when the large tube is used is so great that a change in the products may take place, and fibrin may be formed in the place of the chondrin, provided the albumen is not over alkaline.

As fibrin was formed by oxygen, and this new substance analogous to chondrin by hydrogen, it occurred to me that these two substances might be formed simultaneously by a simple-cell voltaic arrangement. For this purpose I took a tube with one end closed by parchment paper, or sometimes by animal membrane, filled it with albu-

men which had been made slightly acid by acetic acid, and inserted it into a small vessel containing albumen, to which a small quantity of potash or soda had been added. I then connected the two fluids by means of a platinum wire, so that one side might become a positive and the other a negative pole. Considerable action took place after the lapse of some time, when, upon examination, I found the albumen in the tube was changed, not into the fibrillated fibrin, but into a granular material. The other pole, or rather the alkaline albumen, was changed into a substance which behaved with various reagents in different ways. In some cases it was a tough, ropy and viscid substance, which was coagulated in water by a solution of acetate of lead, was insoluble in acids and in alcohol, and very slightly soluble in alkali. At other times I have noticed a substance formed having very much the appearance of the expectoration of bronchitis; and at other times the dense hard substance analogous to chondrin in its behavior with reagents was formed.

The various states of the material into which albumen is converted appear to be influenced by the nature of the alkali employed and by the relative size of the negative pole. The temperature should be as nearly as possible constant during the time the experiment is being conducted. The amount of the surface of membrane interposed appears to have very little influence over the products. When soda was the alkali employed, the viscid and frothy mucus-like product was more frequently obtained.

The amount of water present appears to have a very decided influence on the product formed. When the viscid and frothy material is produced, it appears to form quicker than the hard and dense chondrin. The temperature of 98° F. appears to favor the production of the chondrinous material; but I must admit I have sometimes made all the varieties, the viscid, the frothy, and also the chondrin, at much lower temperatures.

In one case I succeeded after many experiments in obtaining from the acid pole, by keeping it at a temperature of 98° F., fibrin of the fibrillated form, but the greater portion of the albumen at this pole was converted into the granular form. The alkaline pole formed pretty constantly the dense, hard, artificial chondrin.

When hydrogen was passed through serum, after the lapse of a day or two a tough elastic product was obtained.

In experiments tried by passing hydrogen through albumen greatly diluted with water, I found, after the lapse of a few days, a flocculent deposit very similar in appearance to the deposit of mucus which often takes place when urine is allowed to stand a short time. This point, however, requires further investigation. I tried also the effect of passing hydrogen through a portion of intestine inserted into an albuminous fluid. I have not as yet been able to form either the dense, hard or viscid frothy substance by this method. I repeated the experiment for the formation of fibrin from albumen, by decom-

posing the water of its composition by electricity. I must admit this is the most difficult, troublesome and unsatisfactory of all the methods I have employed. I find that the great tendency of the poles to form different substances on them, and the great rapidity with which they grow together, lead, without the greatest care, to the belief that two different substances, differing only in density, are formed at one and the same pole, so intimately blended are they together. Thus I was led to believe at first sight that a dense hard substance was formed at the oxygen end, and not until I had repeated the experiment many times did I discover that the substance belonged to the hydrogen and not to the oxygen pole, and had grown across from one pole to the other.

I have obtained on several occasions fibrin and chondrin at the same time, by conducting hydrogen and oxygen derived by the decomposition of water by voltaic electricity through separate tubes. The oxygen passed into slightly acid albumen formed fibrin; the hydrogen passed into alkaline albumen formed either the chondrin or else the frothy and viscid material. The temperature was kept up at 98° F. in these experiments. On one occasion, however, I happened accidentally to reverse the current (that is to say, the hydrogen was passed into the acid, and the oxygen into the alkaline albumen), when no chondrin or fibrin was formed.

The following conclusions I have arrived at after the study of the influence which oxygen and hydrogen gases exert upon albumen when submitted to their action separately at a temperature of 98° F., the normal temperature of the living body. Albumen under the action of oxygen forms, after the lapse of a longer or shorter period, fibrin. The fibrin thus artificially produced is of three distinct varieties, viz., 1st, the granular form; 2d, a form allied to lymph incapable of being unravelled into fibrils; lastly, the true fibrillated fibrin. The law which appears to regulate the state into which the albumen is converted, as far as my observation has gone, is one of molecular aggregation, similar to the electric deposit of metals, as the slower the fibrin is formed the more organized is it in substance.

I have observed that when fibrin is rapidly formed it is almost always produced in the granular state; this is particularly the case with fibrin formed from albumen by the decomposition of the water of its composition by voltaic means.

Lymph I consider to be imperfectly formed fibrin, more highly developed than the preceding or granular form. It is possible for this artificially formed lymph, under favorable circumstances, to assume a more organized appearance.

I have no doubt that the fibrinous outgrowths on the intestine would have become larger and more developed if the experiment had been carried on for a sufficient length of time. In fact almost all the fibrin formed round a platinum wire inserted into albumen is at first covered by outgrowths of a soft structure. These outgrowths,

at the earliest period of their formation, do not, under the microscope, present any appearance of fibrils. After the lapse of some time they appear to undergo condensation, and then to organize to such an extent that it would be difficult at first sight to determine whether the substance might not be a portion of fibrous tissue.

The alkalies, with the exception of ammonia, prevent entirely the formation of fibrin. Ammonia, although it does not retard its formation, dissolves it after the lapse of a short time. The acids and absence of alkaline salts favor its formation. The opposite, however, is the case with the hydrogen products, as an alkaline state favors their production.

The action of hydrogen on albumen, as far as my investigations have as yet proceeded, forms substances analogous to chondrin and mucin. I believe that the organic substances, chondrin and mucin, products formed in a living organism, are very nearly allied to one another, if not varieties of the same substance, differing only in their mode of aggregation and stages of development, and the amount of water in their composition.

Of the exact mode in which hydrogen acts on albumen we are at present ignorant. I have noticed that in some experiments sometimes one, sometimes the other product was obtained, even when the same influences were apparently acting on experiments conducted at the same time.

Considering the important physiological part that fibrin, chondrin and mucin play in the living body, the production artificially of substances analogous in their behavior with reagents to those products formed in a living organism will, I trust, be taken as a sufficient excuse for submitting to the Royal Society a paper so obviously deficient in many parts, but which, nevertheless, it would require a vast amount of both time and labor to carry one step further.—*Proceedings of the Royal Society.*

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, JANUARY 12, 1865.

ADVERTISEMENTS BY PHYSICIANS.—By this title we do not, of course, refer to the quack advertisements which have become a chronic nuisance in our daily papers, and which, so long as they are paid for, we must resign ourselves to the sight of, we suppose, until the millennium—but to the professional notices of regular physicians which they may see fit to address to the medical profession or the community through the medium of the press. The time has been when any such advertisement, except perhaps that of a change of residence, was looked upon by most physicians as unprofessional and as bringing the advertiser close to the border of the wide domain of quackery. It is worth our

while to consider whether there is justice in this wide-sweeping condemnation, and whether there are any circumstances at the present day which justify a departure from the usage of former times.

The first consideration which strikes us is, that at the present time the study and practice of specialties in our profession is more extensively adopted than ever before. We do not propose now to discuss the wisdom or the advantages of such a course, but take it for granted as generally accepted that the individual departments of medical science which have thus occupied the undivided attention of a crowd of zealous devotees have been elucidated and developed to a degree never before known in medical history. It certainly is important, therefore, for the medical profession and for the public at large to know who those physicians are who have determined to occupy a restricted field of labor, and what are the special subjects to which they confine their attention. No more ready means occurs to us of making such a decision publicly known than through the medium of a modest advertisement in a medical periodical. So presented it is addressed almost exclusively to medical readers, and the advertiser hardly lays himself open to the charge of mercenary motives. No physician in general practice can expect at the present day to keep up his knowledge to the highest standard of progress in the diagnosis and treatment of diseases of the eye, for instance, and the advertisement of one who restricts himself to the treatment of this class of diseases tells him where he may send his obscure or doubtful cases for relief. The relief is two-fold, for the physician and for the patient, and the result is a positive public benefit. It should be observed, however, that a specialist who thus gives public notice of his calling, is bound in honor to confine himself in the main to the field he has chosen to occupy. When a man advertises that "with general practice," &c., he pays particular attention to such or such a class of affections, he is plainly looking out for the interests of his pocket above all others, and means to say, "I am great enough to do all that other physicians do, and so much besides." There is a point of honor in this matter which physicians cannot be too jealous about. Advertisements in any form are liable to be quoted in excuse for those which are purely quackish. Thus an unscrupulous enthusiast may advertise that he always cures incurable diseases. Or a man anxious to impress the public with his acquirements, to which he has no real claim, may refer, in the daily papers, to his recent return from European hospitals, leading the unsuspecting reader to suppose that he is surcharged with all the newest ideas of the profession abroad, and must of course be an age in advance of the common herd of doctors, whose observations and studies have been limited to the narrow horizon of home—the fact being that his whole experience in European hospitals, if any at all, is measured by the short stay in a European port of the packet to which he was attached as ship's surgeon! Such advertisements as these, we are sorry to say, are no strangers to the inquiring eye in our community, and we can only express the regret that those officers of our local societies, whose duty it is to see that the laws of strict medical ethics are closely adhered to among us, are not yet able to see what is so plain to the profession at large.

It would seem, then, if we judge rightly in this matter, that the simple statement of a specialist, in a medical journal, that he has

chosen a particular department of professional labor, should not only not lay him open to animadversion, but is probably to some extent a public advantage. It has not the character of the newspaper puff of a tradesman in any sense, where the advertiser plainly designs to recommend as strongly as possible the wares which he offers for sale. Its publication should be limited, however, to the medical press. Advertisements of such a nature in the daily newspapers savor very strongly of a hankering after the gains which are supposed to reward the enterprising advertiser of the last new nostrum, and are not to be thought of for a moment. The only advertisement in a daily paper which occurs to us as being in keeping with strict professional propriety is that of a change of residence, and even this may be allowed to stand so long sometimes as to present a most unwholesome look. We think it would be well if our Medical Societies were to take up the consideration of this subject with the view to fixing by statute the proper bounds within which the custom of professional advertising should be circumscribed, always supposing, however, that rules made for this purpose should not be allowed to slumber as a dead letter.

Dr. LUCIUS M. SARGENT, Jr., Lt. Col. 1st Mass. Cavalry, was killed, Dec. 9th, 1864, in action, near Bellfield, Va., by a shell which broke the right clavicle and otherwise crushed in the chest, though leaving no noticeable external disfigurement.

Dr. Sargent was born in Boston, Sept. 15th, 1826. His life, not a long one, was unusually varied and full of incident. At school, college, before the mast, as artist, physician, or soldier, he was always among the foremost where expedient, energy, talent, and courage were necessary for success. He had seen much of the world, and knew well both books and men. To whatever he undertook, he gave his whole energy with characteristic devotion. Few of his age were his equals in wit, literature, or science. To great physical strength he added the most delicate touch with the pencil, and the tenderest manipulation of the sick.

After his marriage, in 1847, he fitted up a studio at his residence, and passed much of his time in drawing, painting, and collateral studies. Art-anatomy naturally led to practical anatomy, and thence to medical science in general. Having decided to enter the profession, he made the business of preparation a no half-way matter. His zeal was unbounded and his application unremitted. Nothing was too trivial to escape his rapid observation, nor too difficult to discourage his ardent enthusiasm. His progress was remarkable, and the position he attained unprecedented—so that when he graduated he was already a man of mark, to whom the profession looked in full expectation of greater things in after days. The Hospital created the office of Artist to secure his services; and the Boston Society for Medical Improvement, at the earliest moment allowed by their constitution, elected him a member. He soon became one of the most prominent physicians of the section of the city where he located; and a brilliant future seemed opening before him. But the chief obstacle to his medical career came from a source the last to be suspected by any one not intimately acquainted with his character—extreme tenderheartedness. Fearless of gods and men, the plaintive weakness of a sick child ap-

palled, and its death while under his care completely unnerved him. It was while nearly crushed by an experience of this kind that he obtained the appointment of Surgeon of a three-years regiment, 2d Mass. Vols., hoping that the duties of the service would be more tolerable. But the routine of winter quarters and the surgeon's call, with its array of malingeringers, soon became too dull for his irrepressible energies. He accordingly resigned his medical commission, asked for a position in the cavalry, and was appointed Capt. in the 1st Mass. Regt. Subsequently he was in a multitude of skirmishes and actions, and dangerous movements known only to cavalry service; and he rose in course with meritorious conduct to the rank of Lt. Colonel.

At the successful action of Aldie Pass he was wounded in the chest, and left for dead on the field; but the ball fortunately made only a subcutaneous circuit of nearly one third the chest, and he soon recovered to return at once to his command. In his last action he fell at the end of a successful charge, at the head of his column, sword in hand, at the very moment of victory.

Strong-handed yet tender-hearted—impulsive yet tenacious of purpose—utterly without fear yet watchfully cautious—gallantly daring in assault yet undauntedly courageous in deadliest combat—of none of the patriot heroes who have nobly perished in unselfish efforts to save their perilled country are the poet's words more *literally* true:—

"With knitted brow and lifted blade
In glory's arms he fell."

TREATMENT OF PNEUMONIA IN CHILDREN.—M. Barthez, Physician to the Hospital St. Eugenie, one of the two hospitals of Paris specially devoted to children's diseases, in a memoir to the Academy of Medicine recommends expectancy in the treatment of pneumonia in children. He mentions 212 cases in children from 12 to 15 years of age, which had come under his care during the last seven years, death taking place in only two instances, and in these both lungs were affected. In half the cases no active treatment was adopted, in many others the treatment was insignificant, and in only one-sixth was it active. The disease was found by M. Barthez to continue a shorter time in the former cases than in the latter, and the convalescence was also shorter. Good hygienic precautions only were advised. M. Bouvier, in a report on this memoir, comes to the conclusion that the expectant method in these cases succeeds in hospital practice, but should not be adopted as a rule in town practice.

THE inauguration of a statue to the memory of Baron Larrey, Surgeon-in-chief of the armies of the First Empire, was recently celebrated by the Department of the Hautes-Pyrénées, Dr. Jules Cloquet being present as a representative of the Academy of Medicine. The son of Baron Larrey, now at the head of the Army Medical Department, was also present.

The No. of the *Philadelphia Medical and Surgical Reporter* for October 29, just received, announces that issue to be the last previous to the 6th of January inst., when, it is promised, the publication will be resumed with promptness and vigor.

It is announced in the public prints that the property of the Castle-

ton (Vt.) Medical College has been sold, and that the College no longer exists.

The number of deaths in the city of Chicago during the month of November was 242—being 18 less than in the corresponding month of last year. Among the causes, were—consumption, 42; croup, 15; smallpox, 11; inflammation of the bowels, 14. Deaths under 5 years of age, 104.

A hospital is to be organized at Columbus, Ohio, in connection with Starling Medical College, to be placed under the management of the "Sisters of St. Francis," an order whose sole vocation is that of keeping charity hospitals.

Prof. W. W. Dawson, M.D., has resigned the chair of Anatomy and Physiology in the Ohio Medical College.

The 16th Regiment Ohio Vols., lately returned from a three years' service, has numbered, including recruits, 1,191 officers and men. It has travelled by railroad 1,285 miles, by steamboat 3,916 miles, by steamship 1,200 miles, and on foot 1,621 miles. The total number of deaths from all causes, as far as ascertained by the Surgeon, B. B. Brashear, is 251. There were killed in battle and died of their wounds, 2 officers and 60 men. There were 185 deaths from disease, of which 47 occurred with the regiment, the others in hospitals, on furlough, in prisons, &c. The number of wounded who recovered was 188. The most prevalent disease was diarrhoea, and the most fatal typho-malarial or camp fever. On surgeon's certificate of disability, 186 were discharged, and 38 were transferred to the Veteran Reserve Corps. The total number mustered out is 447.

Dr. J. Marion Sims, formerly of Alabama, afterwards of New York, but for the last two years a resident in Paris, has had the Cross of the Legion of Honor conferred on him by the Emperor of the French, in recognition of his eminent services in surgery, and his skill and success in the treatment of uterine diseases.

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JANUARY 7th, 1865.

DEATHS.

	Males.	Females.	Total.
Deaths during the week	50	49	99
Ave. mortality of corresponding weeks for ten years, 1853—1863,	43.8	39.3	83.1
Average corrected to increased population	00	00	90.88
Death of persons above 90	0	0	0

MARRIED,—In this city, 5th inst., Dr. David L. Ambrose, of West Newbury, to Miss Carrie E. Noyes, of South Hampton, N. H.—At Chelsea, 4th inst., Daniel D. Gilbert, M.D., of Boston, to Miss Amelia A. Stebbins, of Chelsea.—In Haverhill, Ms., Dr. C. S. Kittredge, of New York, to Miss A. M. Chase, of Haverhill.

DIED,—At Bath, Me., 2d inst., Grenville W. Gay, M.D., late of this city.

DEATHS IN BOSTON for the week ending Saturday noon, Jan. 7th, 99. Males, 50—Females, 49.—Accident, 3—inflammation of the bowels, 2—congestion of the brain, 2—disease of the brain, 4—inflammation of the brain, 1—bronchitis, 3—burns. 1—bilious colic, 1—consumption, 25—convulsions, 2—croup, 4—debility, 1—diarrhoea, 1—dropsey, 2—dropsey of the brain, 3—exhaustion, 1—scarlet fever, 1—typhoid fever, 2—disease of the heart, 2—infantile disease, 2—intemperance, 2—synovitis of the knee, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 9—old age, 1—paralysis, 3—premature birth, 2—scrofula, 2—smallpox, 3—trachealis, 1—unknown, 7—whooping cough, 3.

Under 5 years of age, 36—between 5 and 20 years, 13—between 20 and 40 years, 28—between 40 and 60 years, 13—above 60 years, 9. Born in the United States, 64—Ireland, 22—other places, 13.